GOLDEN RATIO

HUMAN RESOURCE MANAGEMENT | RESEARCH ARTICLE

Reflecting Staff Reward in Employee Output: A Validation of Henri Fayol's 7th Principle of Management Using the Nigerian Manufacturing Sector

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ABSTRACT

A poorly designed employee reward system is a key factor contributing to diminished enthusiasm, reduced focus, and inefficiency among employees, ultimately hindering productivity and undermining the overall success of an organization. To address this issue, this study examines the impact of staff rewards on employee output in Nigerian manufacturing firms, testing Henri Fayol's 7th Principle of Management. Specifically, the study assesses the extent to which employee remuneration influences the value added by listed manufacturing firms in Nigeria, using an ex-post facto research design. A purposive sampling technique was employed to select a sample of fifty-five out of the sixty-four listed manufacturing firms in Nigeria. Secondary data were collected from the firms' annual reports covering the 2015–2023 accounting periods. The hypothesis was tested using panel estimated generalized least squares with cross-sectional weights, addressing heteroskedasticity and cross-sectional dependence. The findings reveal that staff rewards significantly enhance employee output among listed manufacturing firms in Nigeria ($\beta = 3.954302$; p-value = 0.0000), aligning with the theoretical framework of Henri Fayol's 7th Principle of Management. In conclusion, an optimized reward system boosts organizational productivity by enhancing employee engagement. Investing in staff rewards is a strategic move that improves performance and supports business growth. Based on these findings, we recommend that manufacturing firms design competitive compensation packages, incorporate performance-based bonuses, and offer non-monetary incentives such as career development opportunities and recognition programs.

Keywords: Staff Reward, Employee Output, Henri Fayol's 7th Principle of Management.
JEL Code: M52, M54, J33, L60.

I.   Introduction

Amid today's fast-paced and highly competitive corporate landscape, organizations continuously seek ways to optimize their operations and enhance performance. A critical factor in achieving organizational success is the efficient management of human resources. Consequently, many businesses increasingly focus

on fostering positive employee behavior to boost productivity and enhance job satisfaction (Omirigwe & Samuel, 2024). Chikaire-Ofoego and Egolum (2024) and Adetunji and Anthony (2024) argue that one of the most effective ways to achieve these outcomes is through developing and implementing a well-structured staff reward system. However, Adegbayibi et al. (2024) contend that such reward systems can negatively impact firm performance. Further complicating this perspective, Abiri et al. (2024) found that remuneration and retirement benefits had no significant effect on the productivity of non-academic staff in public universities in Southwest Nigeria. Similarly, Korolo and Korolo (2024) reported that while directors' remuneration and pension costs did not significantly affect financial performance, salaries and wages significantly negatively impacted listed deposit money banks, suggesting that excessive compensation without corresponding productivity improvements can be detrimental. Nevertheless, it is traditionally believed that rewarding employees for their efforts not only motivates them but also aligns their goals with the organization's objectives (Nwajei & Ikeogwu, 2024).

The importance of an effective staff reward system, particularly in the manufacturing sector, has never been more significant in today's dynamic business environment (Adetunji & Anthony, 2024). As firms strive to maintain a supportive and inclusive workplace (Nworie et al., 2024), global competition intensifies, compelling manufacturing organizations to adopt innovative strategies for attracting, retaining, and motivating employees (Adegbayibi et al., 2024). A well-structured reward system plays a crucial role in this process, as it enhances job satisfaction and fosters employee engagement, loyalty, and overall productivity. Numerous studies have shown that organizations that invest in comprehensive reward systems experience improved employee performance (Nwosu & Okundamiya, 2024), lower turnover rates (Chizoba et al., 2024), and greater alignment between individual goals and organizational objectives (Bolatito & Mohamoud, 2024). As a result, businesses increasingly recognize the value of financial and non-financial rewards as part of a strategic approach to human resource management. At the heart of this research is Henri Fayol's seventh principle of management, which states that personnel remuneration should be fair and adequate (Fayol, 1970). This principle has long been a fundamental concept in organizational management and remains highly relevant in contemporary discussions on employee performance and motivation (Rana, 2024). Fayol's principle underscores the importance of providing equitable and sufficient rewards to employees, ensuring that compensation reflects the effort and value they contribute to the organization (Agrawal, 2024). Although Fayol formulated his management principles in the early 20th century, his ideas continue to shape modern approaches to people management. Fayol's seventh principle includes fair compensation, the link between rewards and performance, and the balance between financial and non-financial incentives (Karan, 2024). The core idea is that employees must feel adequately rewarded for their work to foster motivation, satisfaction, and high performance. This study explores staff reward systems by analyzing rewards such as monetary bonuses, benefits, recognition programs, and career advancement opportunities, and examining their correlation with employee output. In this context, staff rewards can be broadly categorized into intrinsic and extrinsic rewards (Okolie & Egbon, 2024). Intrinsic rewards fulfill an individual's internal needs, such as accomplishment, personal growth, and job satisfaction. In contrast, extrinsic rewards are tangible incentives, including salaries, bonuses, benefits, and promotions, which are typically linked to measurable performance outcomes. A well-structured reward system integrates intrinsic and extrinsic factors, creating a comprehensive approach to employee motivation (Okurume, 2024). When employees feel motivated, they are more likely to work with greater enthusiasm, focus, and efficiency, ultimately increasing their output and contributing to the organization's overall success.

Implementing an effective staff reward system in manufacturing firms is crucial in enhancing employee output in several ways (Adetunji & Anthony, 2024). First, it improves job satisfaction (Bolatito & Mohamoud, 2024). Employees who feel recognized and appreciated for their contributions are more likely to be satisfied with their work. This satisfaction fosters higher engagement levels, which, in turn, enhances performance. Recognition—whether through awards, public acknowledgment, or personal praise— reinforces positive behavior and motivates employees to maintain high performance standards (Nwajei & Ikeogwu, 2024). Additionally, when employees see that their efforts are rewarded, they develop a stronger

loyalty to the organization, leading to greater commitment and higher retention rates (Iseh & Ifegbu, 2024). By investing in employees' well-being and career development, businesses can reduce turnover and absenteeism, ultimately improving productivity and efficiency.

In alignment with Henri Fayol's seventh principle, a well-structured reward system fosters a sense of fairness and equity, reinforcing the idea that employees' contributions are valued (Karan, 2024). When rewards are perceived as fair, employees are more likely to trust their organization's leadership and feel secure in their roles. This sense of psychological security encourages them to perform at their best, knowing their hard work will be recognized and rewarded. An equitable reward system also strengthens the relationship between management and employees, ultimately enhancing overall organizational performance (Pagulong, 2024). However, despite the growing recognition of the importance of fair employee compensation, many businesses struggle to implement a comprehensive and effective staff reward system. For example, researchers observed that Omatek Ventures Plc reported zero staff compensation in some accounting periods. Additionally, some organizations rely heavily on monetary compensation, neglecting other crucial rewards such as recognition, career development, and work-life balance (Okurume, 2024). In some cases, reward systems are poorly designed, inconsistent, or unfair, leading to employee dissatisfaction and demotivation (Chikaire-Ofoego & Egolum, 2024). Furthermore, many organizations fail to assess the effectiveness of their reward systems, resulting in a lack of alignment between employee performance and the rewards they receive. This misalignment exacerbates the problem, as employees may perceive the system as inequitable, ultimately reducing motivation and engagement. Consequently, when employees do not feel adequately rewarded or appreciated, their motivation and performance levels will likely decline. This can lead to adverse outcomes, including lower productivity, higher absenteeism, and increased turnover rates (Okolie & Egbon, 2024). Disengaged employees are less likely to put in the effort required to achieve organizational goals and may even contribute to a toxic work environment, hindering overall company growth and profitability.

Furthermore, a poorly executed reward system can result in losing top talent, as employees who feel undervalued may seek opportunities elsewhere. This, in turn, can weaken the organization's competitive position, particularly in industries where talent retention and high performance are essential for success. Consequently, the absence of a well-structured staff reward system affects employee output and has profound implications for the long-term sustainability and success of the organization. Despite numerous studies on staff rewards and employee output (Chikaire-Ofoego & Egolum, 2024; Adetunji & Anthony, 2024; Adegbayibi et al., 2024; Nwajei & Ikeogwu, 2024; Nwosu & Okundamiya, 2024; Chizoba et al., 2024; Ucherwuhe & Akorga, 2024; Iseh & Ifegbu, 2024), gaps remain in validating Fayol's seventh principle, utilizing secondary data to measure value-added, and addressing econometric issues such as heteroskedasticity and cross-sectional dependence. Addressing these gaps is crucial, especially when the Nigerian manufacturing sector grapples with rising global competition, economic uncertainty, and the need for a more efficient and motivated workforce to drive organizational success and growth. Based on that, this study aims to examine the impact of staff rewards on employee output in Nigerian manufacturing firms, thereby testing Henri Fayol's seventh principle of management. To achieve this, the study investigates explicitly how employee remuneration influences the value added by listed manufacturing firms in Nigeria.

II.   Literature Review and Hypothesis Development

2.1.   Staff Reward

Staff reward refers to the system of incentives and compensations that an organization provides employees in exchange for their efforts and contributions toward achieving organizational goals (Adegbayibi et al., 2024). A staff reward system is designed to recognize and appreciate employees' hard work, dedication, and performance, ensuring that their efforts are adequately compensated. The concept of staff reward extends beyond monetary compensation, such as salaries and bonuses, to include non-financial incentives like recognition, career development opportunities, work-life balance, and a positive organizational culture.

In this context, a staff reward system serves as a comprehensive approach that not only meets employees' basic needs but also appeals to their higher-order motivations, such as personal growth, self-fulfillment, and job satisfaction (Nwajei & Ikeogwu, 2024; Nwosu & Okundamiya, 2024). The effectiveness of a staff reward system lies in its ability to align employees' individual goals with the organization's objectives. This alignment ensures that employees remain motivated to contribute to the organization's success, ultimately enhancing overall performance. However, a reward system perceived as unfair, inconsistent, or poorly implemented can lead to dissatisfaction and demotivation (Ryan & Deci, 2020). Similarly, organizations that fail to incorporate non-financial rewards, such as recognition and professional development, may not fully harness the potential of their workforce. Employee remuneration is a critical component of staff rewards, as it directly represents the compensation employees receive in exchange for their labor (Chizoba et al., 2024). Since remuneration is closely linked to performance and effort, it is a key indicator of how effectively an organization rewards its staff. A well-structured, fair, and equitable remuneration system ensures that employees are compensated based on their skills, experience, and the quality of their work (Ryan & Deci, 2020).

2.2.   Employee Output

Employee output refers to the measurable results or outcomes an employee achieves while performing their job responsibilities (Bosire et al., 2021). It is a crucial metric for assessing an employee's contribution to the organization's objectives, reflecting their productivity, efficiency, and effectiveness (Omirigwe & Samuel, 2024). Employee output encompasses the quantity of work produced and its quality. It is often evaluated based on specific performance indicators, such as meeting deadlines, achieving targets, and fulfilling job requirements. As a result, employee output plays a vital role in determining an organization's overall performance, as the collective efforts of all employees directly impact the organization's ability to achieve its goals and maintain a competitive edge in the marketplace (Nwajei & Ikeogwu, 2024). Several factors influence employee output, including individual competencies, motivation (Omirigwe & Samuel, 2024), job satisfaction, and the work environment. Skilled, knowledgeable, and motivated employees are more likely to produce high-quality output, while those who are dissatisfied or disengaged may struggle to meet expectations (Ucherwuhe & Akorga, 2024). The relationship between employee output and organizational success is significant. Ilodilibe et al. (2024) assert that high employee output is essential for achieving organizational goals, improving profitability, and maintaining a competitive edge. Conversely, low employee output can hinder organizational progress, leading to inefficiencies, missed opportunities, and reduced profitability. Therefore, organizations must continuously assess and manage the factors that impact employee output, including motivation (Omirigwe & Samuel, 2024), job design, and reward systems. In this context, employee output is not just a measure of individual performance but also an indicator of the organization's overall health and effectiveness. In this study, value added measures employee output, reflecting how efficiently labor and resources are utilized to generate wealth. Employees contribute directly to a company's value through productivity, innovation, and efficiency.

2.3.   Theoretical Framework and Development of Research Hypothesis

This research is anchored on Henri Fayol's 7th Principle of Management. Fayol's seventh principle, remuneration of personnel, highlights the importance of fair and adequate compensation as a fundamental aspect of effective management (Karan, 2024). Henri Fayol, a pioneer of modern management theory, asserted that employees should be rewarded in a manner that acknowledges their contributions to the organization. He argued that compensation should be equitable and sufficient to motivate employees to perform at their best and remain committed to the organization (Agrawal, 2024). Fayol's principle underscores the idea that employees are an organization's most valuable asset and that rewards directly influence their performance. In this context, remuneration extends beyond wages and salaries to include rewards such as bonuses, benefits,

and non-financial incentives like recognition and career development opportunities (Nwosu & Okundamiya, 2024).

Fayol's seventh principle reflects a broader perspective on management as a process of balancing organizational needs with those of employees. According to Fayol, fair remuneration fosters positive employee relations, increases job satisfaction, and ensures employees feel valued and respected (Agrawal, 2024). This principle aligns with management theory's broader concept of motivation, recognizing that employees are driven by intrinsic and extrinsic factors (Ryan & Deci, 2020). In this context, remuneration is a powerful extrinsic motivator, encouraging employees to perform well and contribute to the organization's success. Fayol's emphasis on fairness underscores the importance of transparency and consistency in reward systems. Employees are more likely to be motivated when they perceive that their compensation is fair compared to their peers and industry standards (Karan, 2024). Fayol's principle has been critically examined over the years despite its longstanding relevance. Some critics argue that the modern workforce has evolved, with employees placing increasing value on work-life balance, career development, and organizational culture (Miftari, 2024). Consequently, organizations must consider broader motivators beyond remuneration to manage and retain talent effectively. Nevertheless, Fayol's seventh principle remains a foundational concept in management, as it establishes a clear link between compensation and employee performance. Based on this premise, we hypothesize:

Ha1=   According to Henri Fayol's 7th Principle of Management, staff rewards significantly enhance employees' output in Nigerian manufacturing firms.

2.4.   Synthetic Critique of Related Empirical Findings

Chikaire-Ofoego and Egolum (2024) examined the impact of employee costs—including salaries, retirement benefits, and bonuses—on financial performance. Their findings revealed that bonuses had a negative but insignificant effect on the earnings before tax (EBT) margin, suggesting that poorly structured bonus systems, which are not aligned with long-term organizational goals, may fail to achieve the intended positive impact of financial rewards. In contrast, Adetunji and Anthony (2024) found that remuneration significantly contributed to asset growth but had a minimal effect on sales growth. This highlights that while compensation plays a crucial role in organizational performance, its impact varies across dimensions. Similarly, Iseh and Ifegbu (2024) examined the influence of reward management on hotels in Anambra and Delta States, Nigeria. Their study concluded that well-structured reward systems significantly improved sales volume, cost control, and labor turnover, ultimately enhancing employee motivation and overall business performance. These findings reinforce the positive relationship between reward systems and employee engagement.

Nwajei and Ikeogwu (2024) emphasized the importance of promotion and recognition in enhancing employee productivity and commitment, highlighting that non-financial rewards play a crucial role in fostering a motivated workforce. Supporting this view, Nwosu and Okundamiya (2024) demonstrated that financial and non-financial incentives significantly improved productivity at First Bank Plc, reinforcing the need for a balanced approach to employee rewards. Similarly, Okolie and Egbon (2024) found that intrinsic and extrinsic rewards were essential in fostering employee commitment, further underscoring the importance of a holistic reward system in driving organizational success. Chizoba et al. (2024) found that competitive compensation and incentive plans led to higher employee efficiency and reduced turnover in private universities, reinforcing that well-structured reward systems enhance performance. However, Abiri et al. (2024) observed that remuneration and retirement benefits had no significant impact on the productivity of non-academic staff in public universities in Southwest Nigeria, suggesting that the effectiveness of reward systems may vary depending on the workforce and organizational context. Ucherwuhe and Akorga (2024) examined the impact of overtime allowances and praise at MIKAP Nigeria Plc, finding that both significantly improved employee productivity, highlighting the benefits of tailored reward strategies.

Finally, Bolatito and Mohamoud (2024) examined reward management in Somalia and found a positive correlation between reward practices and employee job satisfaction. Their findings further support that effective reward systems directly influence employee performance. This broader perspective suggests that reward management practices—whether financial or non-financial—can have significant implications for employee output across various sectors and regions.

2.5.   Gap in Literature

Numerous studies have examined the effect of staff rewards on employee output; however, critical gaps remain that need to be addressed in future research (Chikaire-Ofoego & Egolum, 2024; Adetunji & Anthony, 2024; Adegbayibi et al., 2024, etc.). While these studies have analyzed various reward structures, such as salaries, bonuses, and benefits, they have not directly validated Henri Fayol's 7th Principle of Management, emphasizing the importance of fair and motivating reward systems in driving employee performance. Additionally, many studies—including those by Nwajei and Ikeogwu (2024), Nwosu and Okundamiya (2024), Chizoba et al. (2024), Ucherwuhe and Akorga (2024), and Iseh and Ifegbu (2024)—have relied primarily on primary data to examine the effects of financial and non-financial incentives on employee performance. However, they often overlook the use of secondary data to measure firm value-added, an essential index of employee output. The absence of secondary data analysis limits the scope and reliability of findings, particularly in assessing the influence of reward practices on financial performance and employee productivity. Moreover, existing studies have failed to address key econometric issues, such as heteroskedasticity and cross-sectional dependence, which can distort results and lead to biased conclusions. Addressing these three critical gaps is essential, especially as the Nigerian manufacturing sector faces increasing global competition, economic uncertainty, and the pressing need for a more efficient and motivated workforce to drive organizational success and growth.

III.   Research Method

This study adopts an ex-post facto research design to investigate the effect of staff rewards on employee output in Nigerian manufacturing firms, thus testing Henri Fayol's 7th Principle of Management. An ex-post facto design is appropriate for this study because it analyzes existing relationships between variables without manipulating the independent variables. This is because the events under investigation have already occurred (Nworie, Okafor & John-Akamelu, 2022; Nworie & Orji-Okafor, 2024). The primary focus of this design is to understand the causal relationships between staff rewards (the independent variable) and employee output (the dependent variable) after the events in question have taken place.

The population for this study consists of the 64 listed manufacturing firms in Nigeria, classified into various sectors: Consumer Goods (21 firms), Industrial Goods (13 firms), Oil & Gas (9 firms), ICT (8 firms), Healthcare (7 firms), and Conglomerates (6 firms) as of December 31, 2023. A non-probability sampling technique was used to select the firms for inclusion in the final research sample. The selection criterion required that the firms must have been listed for at least nine years during the study period (2015-2023), ensuring that the data is comprehensive and covers a significant time frame for analysis. From the total population of 64 firms, a final sample of 55 firms was selected, representing a diverse range of manufacturing sectors (see Appendix A). This results in a dataset of 495 firm-year observations over the 9 years from 2015 to 2023. This research will utilize secondary data, which will be gathered from the audited annual reports and financial statements of the selected firms. The primary data sources include the Statement of Value Added and the Statement of Profit or Loss and Other Comprehensive Income, which provide detailed information on firm performance and employee remuneration. The data will cover the 9 years from 2015 to 2023. This data collection method ensures that the study is based on accurate, reliable, and verifiable information, which will be used to assess the relationship between staff rewards and employee output.

Regarding variable measurement, employee output is quantified using the firm's value added, as reported in the annual reports. Value added indicates the firm's overall economic contribution, directly reflecting the output generated by employees. Staff reward is measured by employee remuneration, which includes salaries, bonuses, and other forms of compensation as reported in the financial statements. This measure will capture the financial incentives provided to employees in exchange for their labor and will serve as the independent variable in the study. The analysis will be conducted using panel data regression techniques, as the data is cross-sectional and time-series. This approach allows for examining multiple firms over several periods, enabling observing the effects of staff rewards on employee output across different firms and years. The regression model to be used in the analysis is specified as follows:

$$EOT_{it} = \beta_0 + \beta_1 SRW_{it} + \varepsilon_{it} _____ \quad eqi$$

Where:
- EOT represents Employee Output
- SRW represents Staff Reward
- β_1 is the regression coefficient
- ε_{it} is the error term
- I represents individual firms
- t represents the period (year)

The study will employ both descriptive and inferential statistical methods for data analysis. Descriptive statistics, such as the mean, standard deviation, minimum, and maximum values, will be calculated to provide an overview of the data distribution and trends over time. Given the time-series and cross-sectional nature of the data, panel data regression methods will be used. Specifically, the Generalized Least Squares (GLS) technique will be applied to estimate the regression model, as this method is particularly effective in handling heteroskedasticity and cross-sectional dependence in the data. The analysis will be carried out using version 10 of EVIEWS software. To test the hypotheses, the null hypothesis (H_0) will be accepted if the calculated probability value (p-value) is greater than or equal to the 5% significance level ($\alpha = 0.05$). Conversely, if the p-value is less than 0.05, the null hypothesis will be rejected, and the alternative hypothesis (H_1) will be accepted. This significance level ensures that the findings are statistically reliable and can be generalized to the broader population of Nigerian manufacturing firms. Additionally, the model will incorporate cross-sectional weights to address any heteroskedasticity and cross-sectional dependence observed in the data. This approach guarantees the robustness and accuracy of the regression results, offering a clear understanding of how staff rewards influence employee output in the context of Nigerian manufacturing firms.

IV.   Results and Discussion

4.1.   Descriptive Analysis

Descriptive analysis (as shown in Table 1) was conducted to summarize the 495 data points collected from 55 listed manufacturing firms in Nigeria between 2015 and 2023. Employee output is measured using the firm's value added (in ₦' 000). At the same time, staff reward is represented by employee remuneration (in ₦' 000), which includes salaries, bonuses, and other forms of compensation as reported in the financial statements.

Table 1. Descriptive Analysis

	Employee Output	**Staff Reward**
Mean	24938937	5135010.
Median	1843967.	602306.0
Maximum	1500000000	76571623
Minimum	-47365672	0.000000
Std. Dev.	97455372	11403132
Skewness	9.503623	3.270575
Kurtosis	120.4781	14.48467
Jarque-Bera	292099.1	3602.861
Probability	0.000000	0.000000
Observations	495	495

As shown in Table 1 above, the mean employee output across Nigeria's 55 listed manufacturing firms between 2015 and 2023 is ₦24,938,937,000. This indicates that, on average, the firms added approximately 24.94 billion naira in value annually. The maximum employee output recorded was ₦1.5 billion, reflecting the highest value added by a firm in the dataset. In contrast, the minimum employee output was negative at -₦47,365,672, indicating that some firms experienced a loss in value added. The substantial standard deviation of ₦97,455,372 suggests significant variability in employee output across firms, highlighting that some perform much better than others, while some face considerable challenges in adding value. The skewness value of 9.50 indicates a strong positive skew in the data, meaning that most firms have relatively low employee outputs, with a few high-performing firms pulling the average upward. This is further supported by the extremely high kurtosis of 120.48, which indicates that the distribution is leptokurtic, with a high concentration of data points around the mean and a few extreme outliers. These outliers significantly influence the overall distribution. The probability of the Jarque-Bera test being 0.000000 indicates that the distribution of employee output is highly non-normal, confirming that the data deviates significantly from a normal distribution.

The mean staff reward for the sample firms is ₦5,135,010,000, indicating that, on average, the manufacturing firms spent about 5.14 billion annually on employee remuneration, which includes salaries, bonuses, and other forms of compensation. The maximum staff reward observed was ₦76,571,623,000, suggesting that some firms allocated significantly higher amounts towards employee rewards, while the minimum staff reward was zero, indicating that there were instances where firms either did not report or did not provide remuneration to employees in specific periods. The standard deviation of ₦11,403,132,000 points to moderate variation in staff reward allocation, suggesting that while most firms offer similar compensation packages, there are notable disparities in how staff rewards are distributed. The skewness value of 3.27 indicates a moderate positive skew, meaning that while most firms report lower remuneration levels, a few firms provide much higher levels of rewards, thus pulling the overall average upward. The kurtosis value 14.48 suggests that the data distribution is highly peaked, with a heavy concentration of data points around the mean and a few firms significantly deviating from the average. Like employee output, the probability of the Jarque-Bera test being 0.000000 indicates that the distribution of staff rewards is not normal and is highly influenced by a small number of firms with extreme values.

4.1.1. Correlational Analysis

Pearson correlation was used to assess the degree and direction of the relationship between staff reward and employee output, as shown in Table 2.

Table 2. Correlational Analysis

Observations	Employee Output	Staff Reward
	Correlation Probability	
Employee Output	1.000000	

	495	
Staff Reward	0.616053	1.000000
	0.0000	-----
	495	495

Table 2 presents the correlation between staff reward and employee output. The correlation coefficient 0.616 indicates a moderately strong positive relationship between the two variables in Nigerian manufacturing firms from 2015 to 2023. This suggests that as staff rewards increase, employee output also tends to rise, indicating that higher remuneration is associated with greater value added by employees. The p-value of 0.0000 shows that this relationship is statistically significant at the 5% level, meaning the observed correlation is unlikely to be due to chance. The positive direction of the correlation further supports the idea that staff rewards can act as a motivating factor, enhancing employee performance and suggesting that higher compensation contributes to increased productivity.

4.1.2.   Model Diagnostics

Two diagnostic tests were conducted to assess the model's validity: the heteroskedasticity and cross-sectional dependence tests.

Table 3. Test of Heteroskedasticity

	Value	df	Probability
Likelihood ratio	3603.013	55	0.0000

Table 3 presents the results of the Panel Cross-section Heteroskedasticity LR Test, which is used to assess the presence of heteroskedasticity in the data. Heteroskedasticity refers to a situation where the variance of the errors is not constant across all observations, potentially leading to inefficient estimates and incorrect inferences in regression analysis (Anaike et al., 2024). As shown in Table 4.3, the p-value of 0.0000 indicates a statistically significant presence of heteroskedasticity, suggesting that the variance of errors differs across the firms. This violation of the homoskedasticity assumption must be addressed to ensure the reliability of the model's results. Cross-sectional weights will be applied to the model to mitigate the issue of heteroskedasticity and enhance the accuracy of the regression estimates. These weights will adjust for the varying error variances across the cross-sectional units, ensuring that the regression analysis remains robust and the results are more reliable.

Table 4. Test of Cross-sectional Dependence

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	2622.122	1485	0.0000

Additionally, Table 4. presents the results of the Residual Cross-sectional Dependence Test, which examines the correlation of residuals between cross-sectional units (Anaike et al., 2024). The Breusch-Pagan LM test statistic, with a p-value of 0.0000, indicates significant cross-sectional dependence in the residuals, meaning the errors are correlated across different firms. This violation further emphasizes the necessity of incorporating cross-sectional weights into the regression analysis to address heteroskedasticity and cross-sectional dependence, thereby enhancing the accuracy and validity of the model's results.

4.3.   Test of Hypothesis

The observations in the previous section (model diagnostics) revealed that the model violated the assumptions of homoskedasticity and cross-sectional independence. Therefore, cross-sectional weights were added as the covariance method, along with the GLS weight, to improve the robustness of the model. Table 5 presents the results of the analysis, which tested the hypothesis restated as follows:

Ha1: Staff reward will significantly enhance the output of employees in Nigerian manufacturing firms based on Henri Fayol's 7th Principle of Management.

Table 5. Test of Hypothesis

Variable	Coefficient	Prob.
Staff Reward	3.954302	0.0000
C	-812413.5	0.0000
R-squared	0.795706	
F-statistic	1920.189	
Prob(F-statistic)	0.000000	

Table 5 presents the regression results that tested the effect of staff reward on employee output among listed manufacturing firms in Nigeria. The R-squared value is 0.795706, indicating that the model can explain approximately 79.57% of the variation in employee output, with staff reward as the key explanatory variable. This relatively high proportion suggests that the model fits the data well.

The F-statistic is 1920.189, with a p-value of 0.000000, which is highly significant. This indicates that the overall regression model, including staff reward and the constant term (intercept), is statistically significant and fits the data well. The significance of the F-statistic suggests that the model performs better than the intercept-only model. In other words, including the independent variable (staff reward) improves the model's fit, further validating the hypothesis that staff reward is a significant driver of employee performance in Nigerian manufacturing firms. In Table 5, the coefficient for staff reward is 3.954302, representing the marginal effect of staff reward on employee output. This coefficient indicates that for every 1-unit increase in staff reward (measured in monetary terms), employee output (as quantified by firm value added) is expected to increase by approximately 3.95 units, holding all other factors constant. The positive value of the coefficient suggests that staff rewards have a positive effect on employee output, supporting the hypothesis that staff rewards enhance employee performance in Nigerian manufacturing firms. This aligns with Henri Fayol's 7th Principle of Management, which advocates for fair remuneration to foster employee productivity. The positive coefficient implies that higher staff rewards are associated with increased employee output in Nigerian manufacturing firms.

The p-value associated with the staff reward coefficient is 0.0000, less than the commonly used significance level of 5% ($\alpha = 0.05$). This indicates that the effect of staff reward on employee output is statistically significant, meaning that the observed effect is unlikely to be due to random chance. Therefore, we can reject the null hypothesis (which posits no significant effect) and conclude that staff reward significantly enhances employee output in Nigerian manufacturing firms. This result strongly supports the hypothesis (Ha1) that staff reward significantly enhances employee output among listed manufacturing firms in Nigeria ($\beta = 3.954302$; p-value = 0.0000), which aligns with the theoretical framework of Henri Fayol's 7th Principle of Management.

4.4   Discussion

The finding that staff reward significantly enhances employee output among listed manufacturing firms in Nigeria aligns with Henri Fayol's 7th Principle of Management, which emphasizes the importance of

fair remuneration in motivating employees and improving their performance. The positive relationship between staff reward and employee output suggests that when employees are adequately compensated, they tend to be more engaged and productive, leading to higher performance levels within the firm. This outcome is likely because rewards, especially financial ones, serve as tangible recognition for employees' efforts, increasing their motivation to contribute meaningfully to organizational goals. The result supports the theory that individuals are likelier to put forth their best efforts when they feel valued and appropriately rewarded for their work. Ultimately, this finding reinforces the principle's core message that equitable compensation drives organizational success.

The findings from previous studies support the idea that staff rewards can significantly enhance employee output, although their effectiveness varies depending on the reward structure and context. For instance, Iseh and Ifegbu (2024) discovered that well-structured reward systems in the Nigerian hotel industry significantly improved sales volume, cost control, and labor turnover, enhancing employee motivation and better business outcomes. This finding underscores the importance of a strategic approach to reward management in driving employee performance. Similarly, Adetunji and Anthony (2024) noted that while remuneration contributed to asset growth, its impact on sales growth was minimal, suggesting that rewards significantly influence certain aspects of business performance but may not be universally applicable across all dimensions.

Other studies further reinforce the importance of reward systems in driving performance. Nwajei and Ikeogwu (2024) found that promotion and recognition—key components of a reward system—played a critical role in enhancing employee productivity and commitment. Similarly, Nwosu and Okundamiya (2024) demonstrated that financial and non-financial incentives significantly boosted productivity at First Bank Plc, suggesting that a balanced approach to reward systems is vital for optimizing employee performance. On the other hand, some studies, such as Chikaire-Ofoego and Egolum (2024), revealed that poorly structured bonus systems had a negative but statistically insignificant effect on financial performance, highlighting that the way rewards are structured and aligned with organizational goals is essential for their effectiveness. Despite some variations in findings, the literature supports the idea that well-implemented reward systems can enhance employee output and contribute to organizational success.

V. Conclusion

This study examined the relationship between staff rewards and employee output, reaffirming the ongoing relevance of Fayol's management principles in contemporary organizations. The findings emphasize the significance of a well-structured and effective reward system that aligns individual performance with organizational goals. Such a system ensures that employees are appropriately recognized and compensated for their contributions, fostering motivation, job satisfaction, and loyalty. Organizations can cultivate a culture of appreciation and high performance by offering a mix of rewards tailored to individual needs. The finding that staff rewards significantly enhance employee output in Nigerian manufacturing firms underscores the crucial role compensation and benefits play in driving productivity within the sector. This result supports Henri Fayol's 7th Principle of Management, which stresses the importance of fair remuneration in boosting employee motivation and efficiency. In essence, manufacturers prioritizing fair and attractive compensation structures are more likely to achieve higher productivity levels, potentially enhancing their competitiveness in the market. In conclusion, an optimized reward system enhances employee engagement and productivity and contributes to long-term organizational success. Investing in staff rewards should be seen as a strategic initiative that fosters organizational growth rather than simply an expense. Based on these findings, we recommend that manufacturing firms design competitive compensation packages that align with industry standards, incorporate performance-based bonuses, and provide non-monetary incentives, such as career development opportunities and recognition programs. By doing so, firms can cultivate a motivated and productive workforce, leading to improved operational efficiency, higher employee morale, and overall organizational growth.

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Appendix 1. Study Sample Size

Fidson Healthcare	PZ Cussons Nigeria Plc.
May & Baker Nig	Unilever Nigeria Plc.
Morison Industries	Union Dicon Salt
Neimeth Int Pharm	Vitafoam Nigeria Plc.
Pharma-Deko	Chams Holding Company Plc
Chellarams	CWG Plc
John Holt	E-Tranzact International Plc
SCOA Nigeria	NCR (Nigeria)
Transcorp	Omatek Ventures Plc
UACN Plc.	Austin Laz
Arbico Plc	Berger Paints Plc.
Julius Berger Nig. Plc.	Beta Glass Plc.
SFS Real Estate Investment Trust	Cap Plc.
Smart Products Nigeria Plc	Cutix Plc.
UACN PDC Plc	Dangote Cement Plc.
UH Real Estate Investment Trust	Lafarge Africa Plc.
Cadbury Nigeria Plc.	Meyer Plc.
Champion Brewery Nig. Plc.	Triple Gee And Company Plc.
Dangote Sugar Refinery Plc.	Aluminium Extrusion Ind. Plc
Flour Mills Nig. Plc.	Industrial & Medical Gases Nigeria Plc
Guinness Nig. Plc	Multiverse Mining and Exploration Plc
Honeywell Flour Mill Plc.	Thomas Wyatt Nig. Plc.
International Breweries Plc.	Conoil Plc
Nascon Allied Industries Plc.	Eterna Plc.
Nestle Nigeria Plc	Japaul Gold & Ventures Plc
Nigerian Breweries Plc	MRS Oil Nigeria Plc.
Nigerian Enamelware Plc	Totalenergies Marketing Nigeria Plc
Northern Nig. Flour Mills Plc	

Source: Researcher's Compilation (2024)